

**STATEMENT OF BENJAMIN H. GRUMBLES ACTING ASSISTANT
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U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE SUBCOMMITTEE ON

ENVIRONMENT AND HAZARDOUS MATERIALS

ENERGY AND COMMERCE COMMITTEE

U.S. HOUSE OF REPRESENTATIVES

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INTRODUCTION

Good afternoon Chairman Gillmor and Members of the Committee. I am Benjamin H. Grumbles, Acting Assistant Administrator for Water at the United States Environmental Protection Agency. I welcome this opportunity to speak to you today about our progress to date in water security, our vision for the future, and the challenges we face in enhancing the security of the Nation's water infrastructure.

Promoting the security of the Nation's water infrastructure is one of the most significant undertakings and responsibilities of the Agency in a post-September 11 world.

An attack, or even a credible threat of an attack, on water infrastructure could seriously jeopardize the public health and economic vitality of a community. As you know, drinking water and wastewater utilities can be vulnerable to a variety of attacks, including, for example, physical destruction of critical water system components, release

of hazardous chemicals, intrusion into cyber systems, and intentional contamination of drinking water.

Over the past three years, EPA has **worked diligently to support the water sector in improving water security and the sector has taken their charge seriously.** Through Congressional authorization under the *Public Health Security and Bioterrorism Preparedness and Response Act of 2002* (the Bioterrorism Act), and through Presidential mandates under Homeland Security Presidential Directives 7, 9 and 10, EPA has been entrusted with important responsibilities for coordinating the protection of the water sector.

We have good news to report on our progress to date. However, much work remains to be done. Understanding one's vulnerability is only the first step in what is a multi-step process to improving security. Many water systems that have completed their vulnerability assessments are now saying, "we have identified our weaknesses, now what do we do?" The next steps involve adopting security measures that both address vulnerabilities and mitigate the consequences of an attack.

EPA's water security work has focused on helping utilities assess their vulnerabilities and creating a baseline of security-related information. Existing and future efforts include providing tools and assistance that drinking water and wastewater systems need to address vulnerabilities by identifying up-to-date security enhancements, sharing information on threats and contaminants, and training on emergency response.

Our goal is to provide the water sector and related emergency response, law enforcement, and public health officials with the tools, training, and information they need to prevent, prepare, and respond to terrorist threats. EPA also needs to continue to provide programs that forge critical links between the water sector and those who support or could support the sector in detecting and responding to threats and incidents, such as local law enforcement and public health departments.

Indeed partnerships are absolutely a key factor in our success. The water sector includes approximately 54,000 community drinking water systems and 16,000

publicly owned wastewater treatment works nationwide. Reaching the entire water sector requires strong partnerships among EPA, state water and homeland security officials, and technical assistance providers. Our work also demands extensive coordination and communication among federal agencies including the Department of Homeland Security, the Department of Health and Human Services, the Department of Defense and the intelligence community, among others.

As a result of the partnerships we have developed and EPA's long-standing relationship with the water sector, we have fulfilled the requirements of the Bioterrorism Act of 2002 and made headway on several other fronts, as well.

IMPLEMENTATION OF TITLE IV – DRINKING WATER SECURITY AND SAFETY

Required Vulnerability Assessments and Emergency Response Plans

Under the Act, each community water system (CWS) providing drinking water to more than 3,300 persons must conduct a vulnerability assessment, certify its completion, and submit a copy of the assessment to EPA according to a specified schedule. In addition, each system must prepare or revise an emergency response plan that incorporates the findings of the vulnerability assessments and certify to EPA within six months of completing a vulnerability assessment that the system has completed such a plan.

Using FY 2002 supplemental appropriation funds, EPA provided grants to support the development of vulnerability assessments and emergency response plans. EPA issued \$51 million in direct grants to 399 of the largest community water utilities that serve populations greater than 100,000 people. Working with training organizations and State drinking water administrators, EPA provided \$20 million in grants to provide technical assistance to small and medium community water systems.

EPA has received all of the vulnerability assessments and emergency response plan certifications from the Nation's largest community water systems. To date, we have received vulnerability assessments from 98% of the medium-sized

community water systems that were due December 31, 2003, and 89% of their emergency response plan certifications. The smallest community water systems covered by the Act were required to submit their vulnerability assessments to us by June 30, 2004. We have received over 7,000 vulnerability assessments from this group, amounting to an 88% submission rate. What these numbers mean is that water systems serving collectively over 230 million people have completed vulnerability assessments: a remarkable achievement in so short a time. Despite this success, EPA continues to work to ensure that we receive all vulnerability assessments and emergency response plan certifications so that all of the Nation's community water systems serving more than 3,300 people reach the same critical milestone.

Of course, most of the credit should go to those who actually prepared the vulnerability assessments and emergency response plans: the water systems themselves. Without their commitment to enhancing security for their consumers, we would not have seen such a high response rate.

Information on Baseline Threats and Protection Protocols

The Bioterrorism Act also required EPA to develop and provide baseline threat information to community water systems in order to aid them in performing vulnerability assessments. EPA developed the *Baseline Threat Information for Vulnerability Assessments of Community Water Systems* (Baseline Threat Document) in consultation with many stakeholders, including other federal agencies, state and local governments, water industry associations, and technical experts. The Baseline Threat Document provides utilities with information to (1) undertake risk-based vulnerability assessments of their assets, (2) analyze potential threats, and (3) consider the consequences of a variety of modes of attack. The document, whose distribution is limited largely to community water systems, lists vulnerability assessment tools and other information resources to help water systems learn more about the potential threats in their areas.

To further assist community water systems in completing their vulnerability assessments and emergency response plans, in January 2003, EPA released a document titled, *Instructions to Assist Community Water Systems in Complying with the Public Health Security and Bioterrorism Preparedness and Response Act of 2002*. An addendum to the instructions was released in October 2003. The instructions outline the steps that water utilities should take to transmit their vulnerability assessments and certifications to EPA. The instructions and a supporting fact sheet also outline the six key elements and all components of the system, as specified in the Act that must be considered in the vulnerability assessment.

Besides the commitment of the utilities and Congressional support for funding, we attribute the success in meeting the requirements of the Act to several factors. First, to aid the development of vulnerability assessments and emergency response plans, EPA supported the creation of analytical tools, training, and technical assistance for the range of sizes of drinking water systems. Vulnerability assessment tools include the Risk Assessment Methodology for Water, which has since been adapted for small and medium drinking water utilities; the CD-ROM software Vulnerability Self-Assessment Tool for drinking water and wastewater systems; and Security and Emergency Management System for small drinking water systems.

Second, working with our many partners, EPA-sponsored training and workshops in 2002 and 2003 which reached several thousand community drinking water and wastewater utility officials, training providers, and utility contractors. These efforts have trained drinking water and waste water systems that serve most of the U.S. population.

To aid the development of emergency response plans, as required by the Act, EPA developed guidance outlining the elements of a sound plan followed by a toolbox entitled the *Response Protocol Toolbox: Planning and Responding to Contamination Threats to Drinking Water Systems*, which is designed to help utilities prepare for and respond to intentional contamination threats and incidents.

Over the past year, EPA has partnered with DHS's Office of Domestic Preparedness to offer a series of workshops to train drinking water utilities on emergency response planning. A series of two-day workshops feature a tabletop exercise of an intentional contamination event in a public water supply. The goal of the exercise is to bring representatives of the key response agencies (e.g., FBI, local and state police, emergency responders, state regulatory agencies, state and local health departments) together to apply the guidance provided during the first day of training.

While EPA has worked to ensure that community water systems fulfill their obligations under the Bioterrorism Act, the Agency has not ignored wastewater systems or small community drinking water systems (serving 3,300 and fewer), which are not subject to specific provisions of the Bioterrorism Act requiring the completion of vulnerability assessments and emergency response plans. EPA also has provided guidance and training to these utilities on how to conduct vulnerability assessments, prepare emergency response plans, and address threats from terrorist attacks.

Research

The Act also places a premium on ensuring that research is carried out to support security efforts. Section 1434 of the Act stipulates that EPA shall work collaboratively to review methods to prevent, detect, and respond to the intentional contamination of water systems, including a review of equipment, early warning notification systems, awareness programs, distribution systems, treatment technologies and biomedical research. Section 1435 requires the review of methods by which the water system and all its parts could be intentionally disrupted or rendered ineffective or unsafe, including methods to interrupt the physical infrastructure, the computer infrastructure, and the treatment process.

To meet EPA's mandate under these sections, the Office of Water partnered with the newly established National Homeland Security Research Center in EPA's Office of Research and Development to draft the *Water Security Research and Technical Support Action Plan*. The Action Plan, released in March 2004, addresses

each of the research requirements under the Bioterrorism Act. It describes the research and technologies needed to better address drinking water supply, water treatment, finished water storage, and drinking water distribution system vulnerabilities. It also addresses water security research needs for wastewater treatment and collection infrastructure, which includes sanitary and storm sewers or combined sanitary-storm sewer systems, wastewater treatment, and treated wastewater discharges. EPA is implementing activities described in the plan, which was vetted with water stakeholders and reviewed by the National Academy of Science.

FULFILLING OUR GOAL: ACTIVITIES, PLANS AND CHALLENGES

As I mentioned earlier, our goal is to provide the water sector the tools, training, and information they need to comprehensively address water security. With utilities and our other partners, we are aiming to minimize the opportunity for terrorist attack on drinking water or wastewater systems by identifying and reducing potential risks and to maximize our ability to detect and respond to terrorist attacks. **Let me give you some examples of the activities we have underway and challenges we face to support this goal.**

Identifying Risk

In addition to undertaking vulnerability assessments, it is vital that water utilities stay up-to-date on threat information in order to fully understand their potential risk. Funded in large part by EPA, the Water Information Sharing and Analysis Center, known as the WaterISAC, became operational in December 2002. It was developed to provide drinking water and wastewater systems with a highly secure Web-based environment for early warning of potential physical, contamination, and cyber threats and for information about security. The 311 utilities that currently subscribe to the WaterISAC provide drinking water to 60 percent of the U.S. population. Forty-five State drinking water primacy agencies

are members of the WaterISAC, which provides a mechanism to reach the majority of small and medium drinking water systems. Key EPA staff also have access.

Efforts are underway to expand membership in the WaterISAC and to develop the ancillary Water Security Channel (WaterSC) that will allow the WaterISAC to send e-mail alerts on security issues and share basic security information directly with a much larger group of drinking water and wastewater systems.

Recently, the Department of Homeland Security announced plans to expand its secure, computer-based counter-terrorism network to the critical infrastructures, working first with the water and electricity sectors. The National Homeland Security Information Network (HSIN) reaches state homeland security offices, emergency operations centers around the country, and has a significant law enforcement communications component. EPA is working with the appropriate organizations to determine how the WaterISAC and HSIN can best serve water sector utilities.

In addition, EPA works with the Department of Homeland Security and the broader intelligence community to improve threat information relevant to water utilities. This involves training intelligence officers on the vulnerabilities of water utilities and providing secure mechanisms, such as the WaterISAC, to communicate sensitive information to the utilities.

Reducing Risk

Early warning mechanisms can significantly reduce the risk of public health impacts and community service disruptions. Issued in January 2004, Homeland Security Presidential Directive (HSPD 9) outlines EPA's responsibilities to develop a robust, comprehensive surveillance and monitoring program to provide early warning in the event of a terrorist attack using biological, chemical, or radiological contaminants. HSPD 9 also directs EPA to develop a nationwide laboratory network to support the routine monitoring and response requirements of the surveillance program.

EPA worked closely with water utilities, state officials and other federal agencies, for example the Department of Health and Human Services, the Department of Homeland Security and the Department of Defense, to formulate the conceptual framework for building such a surveillance and laboratory capability. Specific activities supporting this analysis included: 1) development of a standardized field screening and sampling kit; 2) identification of the highest priority contaminant threats and the most vulnerable infrastructure points through an inter-agency workgroup, 3) evaluation of new and emerging detection technologies; and 4) collaboration with the Centers for Disease Control and Prevention (CDC) to develop an alliance of drinking water laboratories with CDC's Laboratory Response Network.

In recognition that a robust detection program is only one part of an effective security strategy, EPA developed a variety of policies, procedures, physical enhancements, and best practices **that assist water utilities in preventing attacks and protecting critical infrastructure components. For example, EPA's Security Product Guides provide information on a variety of products available to enhance physical security (including monitoring equipment) and electronic or cyber security. Several products will assist utilities in preventing or delaying potential adversaries as well as detecting incidents. In addition, EPA has worked with the American Society of Civil Engineers to develop physical security guidelines that utilities should consider in designing, managing, and operating their systems.**

Implementing security enhancements can prove to be a challenge for many water-sector utilities who also face competing demands for replacement of aging infrastructure and making process improvements to meet public health requirements. EPA and water-sector stakeholders need to continue educating elected officials, water boards, rate-setting entities, and consumers about the importance and need for security enhancements at drinking water and wastewater utilities and the multiple benefits that can be derived from these enhancements. **EPA has provided guidance on how the Drinking Water**

State Revolving Fund and the Clean Water State Revolving Fund may be used to lend financial support for such improvements.

Preparing to Respond

Due to the dispersed nature of water utilities – the Nation's drinking water utilities have about 2 million miles of pipe – it is a great challenge to protect against determined aggressors. Consequently, it is critically important that water utilities be prepared to respond effectively at any time. Building on workshops already given in FY 2003 and FY2004, EPA will continue to stress the importance of emergency response planning, drills and exercises for water utilities and associated emergency response, law enforcement and public health officials.

Several Homeland Security Presidential Directives (HSPDs) issued within the year also relate to emergency response. For example, HSPD 8 (December, 2003) establishes policies to strengthen the Nation's preparedness to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies by establishing mechanisms for improved delivery of federal preparedness assistance to state and local governments. Also, HSPD 10: Biodefense for the 21st Century (April, 2004), which is currently a classified document, reaffirms EPA's responsibilities under HSPD 9 while adding a clear directive on the Agency's responsibilities in decontamination efforts. It provides direction to further strengthen the Biodefense Program through threat awareness, prevention and protection, surveillance and detection, and response and recovery.

CHALLENGES AND OPPORTUNITIES

While progress has been made toward securing drinking water and wastewater utilities, a number of challenges and opportunities remain, and EPA is taking steps to meet them both from national and local perspectives .

EPA was designated as the Sector Specific Agency responsible for infrastructure protection activities for the nation's drinking water and wastewater systems under HSPD 7, entitled *Critical Infrastructure Identification, Prioritization,*

and Protection (December, 2003). As such, EPA is responsible for: 1) identifying, prioritizing, and coordinating infrastructure protection activities for the nation's drinking water and wastewater treatment systems; 2) working with federal departments and agencies, state and local governments, and the private sector to facilitate vulnerability assessments; 3) encouraging the development of risk management strategies to protect against and mitigate the effects of potential attacks on critical resources; and 4) developing mechanisms for information sharing and analysis. As I have explained, work is underway to fulfill many of these responsibilities.

To portray a comprehensive picture of security activities for the water sector, under HSPD 7, EPA is leading the development of a water sector specific plan as part of the DHS-led National Infrastructure Protection Plan production process.

In developing the plan, we identified some additional issues for ensuring that water utilities implement effective security programs. For example, updates of drinking water utilities' vulnerability assessments and emergency response plans, or the implementation of security enhancements identified by the vulnerability assessment, are not required. The water sector recognizes the need for both vulnerability assessments and emergency response plans to be living documents, revised periodically to ensure their applicability. Furthermore, sector representatives have expressed to the Agency the need for clear expectations of what constitutes effective security programs so that they can justify and obtain the resources needed to improve security.

To address this challenge, the Agency **asked the National Drinking Water Advisory Council (NDWAC), a formal advisory committee to the Agency, to consider establishing a Water Security Working Group to (1) characterize effective voluntary utility security programs for drinking water and wastewater utilities, (2) consider ways to provide recognition and incentives that facilitate adoption of such programs, and (3) recommend mechanisms to measure the extent of implementation. The NDWAC agreed and the resultant Working Group is made up of sixteen members chosen on the basis of experience, geographic location, and their**

unique drinking water, wastewater, and/or security perspectives. During the first meeting of the workgroup, it was clear that the Working Group will consider the need for an iterative approach whereby utilities periodically revisit both vulnerability assessments and emergency response plans.

Another issue that we identified relates to EPA's ability to share the information contained in or derived from vulnerability assessments that are required by the Act to be submitted to the Agency by Community Water Systems. Currently, consistent with the protective provisions of the Bioterrorism Act, EPA must designate individuals before sharing assessment information with them. Clearly, it is extremely important to protect the site-specific vulnerability information contained in these vulnerability assessments and the Agency guards this information fiercely. Aggregated information on vulnerabilities of the sector, however, could be helpful in identifying priorities for security improvements and research. Both the Government Accountability Office and EPA's Inspector General have pointed out the need for this information to guide our efforts at the federal level.

CONCLUSION EPA has developed a water security program that meets our critical responsibilities as expressed in Homeland Security Presidential Directive 7, which assigns to EPA a pivotal role in coordinating and facilitating the protection of the Nation's drinking water and wastewater systems. EPA has produced a broad array of tools and assistance that the water sector is using to assess its vulnerabilities and to develop emergency response plans. As a result of our efforts, drinking water systems collectively serving over 230 million people have submitted vulnerability assessments. We have worked effectively with our partners within the sector and also reached out to build new relationships with important partners beyond the sector to ensure that water and wastewater utilities receive the information and support they need to reduce risk and consequences of an attack.

Thank you for the opportunity to describe our accomplishments, new mandates and program needs, challenges, and vision for the future of water infrastructure security.

Looking forward, we will continue to work closely with Congress, our water sector partners, federal agencies and various stakeholders to ensure that citizens across the country are confident in the security of their water and wastewater utilities. I will be happy to answer any questions you may have.